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NAGCHHU DZONG AREA

I. Terrain and Vegetation

The terrain of the Nagchhu Dzong area* consists of high plateau and mountain country in which elevations of the basins and valleys vary from 14,500 to 15,500 feet with ridges and mountains rising several hundred to occasionally several thousand feet higher. The most pronounced terrain feature is the southwest-northeast trending Nyenchhen Thanglha, a mountain chain lying about 40 miles southeast of Nagchhu with snow-capped peaks rising 20,000 to 21,000 feet. The other major mountain range in the general area is the Thanglha Ri, whose 19,000 to 20,000 foot peaks are some 80 to 100 miles to the north.

Within the Nagchhu area, two major types of terrain occur. Beginning about 30 miles west of Nagchhu and continuing for several hundred miles westward is the great northern plateau (Chang Thang) of Tibet characterized by bleak, open country and dotted by numerous, mostly salty lakes. Broad basins are typical in whose centers are lakes of varying sizes that receive numerous small streams from all sides. Most of the streams are small and filled with water only during the warmer months. Marshy areas surround

* The Nagchhu area consists of a roughly 50 mile radius circle measured from the town.

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some of the lakes. The basins are mostly closed off from one another by low ridges, and often only by smooth saddles. Although gullies and small ravines of the type found in arid climates may be found, most of the country is flat to rolling, with low rounded hills and broad, open valleys.

East of the Chang Thang and encompassing most of the Nagchhu area is found a somewhat different and somewhat more variable types of terrain. Here are numerous headwater tributaries of the Salween that drain and dissect the country into a somewhat more diversified landscape. Although large areas of flat, open valleys with marshy, poorly drained land occurs, there is a transition eastward to a more dissected country of ridges and valleys without the large lakes characteristic of the Chang Thang. Occasionally, the streams have cut narrow ravines through rocky areas, and large boulders, rock pinnacles, and sharp-edged ridges often are interspersed with more rounded hills and broad valleys. Although some narrow valleys do occur, the dissection is far less and on a much reduced scale as compared to eastern Tibet.

During summer a combination of rain and melting snow and ice makes much of the Nagchhu area a morass of sticky, boggy soil, and travellers have commented on the problems of travel during this season of the year. During fall, however, there is a drying up of the surface and foot travel generally is best at this season. Winter travel is sometimes complicated by heavy snow, and strong winds are a major problem, particularly in the afternoon hours.

Vegetation in the Nagchhu area is confined to grasses and other low-growing plants. Some low shrubs may be found in the extreme eastern margins of the area; trees and forests, however, are at least 50 to 75 miles farther east and southeast of the Nagchhu areal limits.

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Permanently inhabited settlements are few; Nagchhu is the only sizable village in the area. Additionally, there are a couple of small monasteries plus installations (such as road stations) built by the Chinese. Otherwise, the people are nomadic tent dwellers who move from pasture to pasture with their flocks. The eastern half of the area, with slightly better grazing, probably will be inhabited by nomads throughout the year. One of the explorers found almost no nomads in the western half during the summer months, although old camping sites were numerous. Another traveller, however, found during winter numerous nomads in the same general area. Whether this is a common settlement pattern or not is unknown. Although the nomads move about, most of them have semipermanent winter quarters in more sheltered locations. Here protecting walls of stone enclose and afford protection for their tents. Temporary stone walls or walls of dung often are found, used as tent protection or protection of animals.

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II. Climate

Detailed climatic statistics are not available for this area. Notes and descriptions kept by explorers are indicative, however, of the general type of climate. In brief, it is cold to very cold for at least six months of the year, with a brief 3 months period of comparatively warmer temperatures when plants are able to grow. Annual precipitation is believed to be light, with a period of rainy weather during the summer months; snow and hail can be experienced at almost any time throughout the year.

Very cold winter temperatures may be experienced in this area. During the month of November, the records of one explorer showed lows reaching to -15°F with zero probably the average of the nightly lows. The records from another expedition, however, also taken during November, indicate that temperatures as low as -40 to -50°F can occur. These very low temperatures may be explained partially by the location of the encampment where the readings were taken in a basin at about 15,500 feet, where air drainage probably was a contributing factor to these exceptional readings. Great variations in temperatures are common and during winter readings in the sun may reach 60°F or even higher. In general, winter lows appear to average well below zero, sometimes with readings downwards to -40°F . Daytime temperatures probably are below freezing most of the time, but occasionally higher temperatures can be experienced. Winter conditions probably prevail from mid-October through March or possibly April. Summer temperatures probably range from lows of 35°F to 40°F to daytime highs in the upper 50's to the 70's. Temperatures below freezing, however, may occur even in July.

Very rough estimates suggest yearly precipitation totals of from 10 to 15 inches. The experiences of explorers, however, suggest great yearly variations. During the summer, it appears that there may be many rainy days, mostly of the afternoon shower type but occasionally rains of longer duration may take place. Although most winters probably are comparatively "open" with little accumulation of snow, winters of very heavy snowfall are not unknown. In 1927, for example, two expeditions in this area reported very heavy snow that accumulated in valley areas to depths of several inches to over a foot. Old inhabitants said that this amount of snow had fallen only 3 to 4 times before in their lifetimes. There has been a similar report of heavy snow during a recent winter. Since the nomads have little or no fodder to winter feed their large flocks of sheep and yaks, any great accumulation of snow is a major disaster. Interestingly, when heavy snow prevent the animals from utilizing grasses in winter grazing areas, the nomads move to higher, wind-swept areas where the daily sweep of strong westerly winds lays bare the frozen earth with its occasional tufts of dried grass.

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